Public Meeting on Dan River and Tributaries

Danville Community College
August 9, 2007

Why Are We Here?

1. Learn about water quality in the Dan River and several tributaries

2. Explain efforts that the State is undertaking to improve and protect water quality

3. Learn what you can do to help

Study Area

Legend

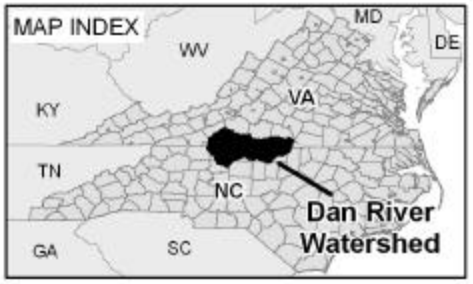
- Dan River Watershed
- Banister River Watershed*
- Counties
- State Boundary
- Impaired Segments
- Streams
- Major Rivers
- Major Waterbodies

*Completed TMDL: outside study area

N W E S

0 1.5 3 6 9 12 Miles

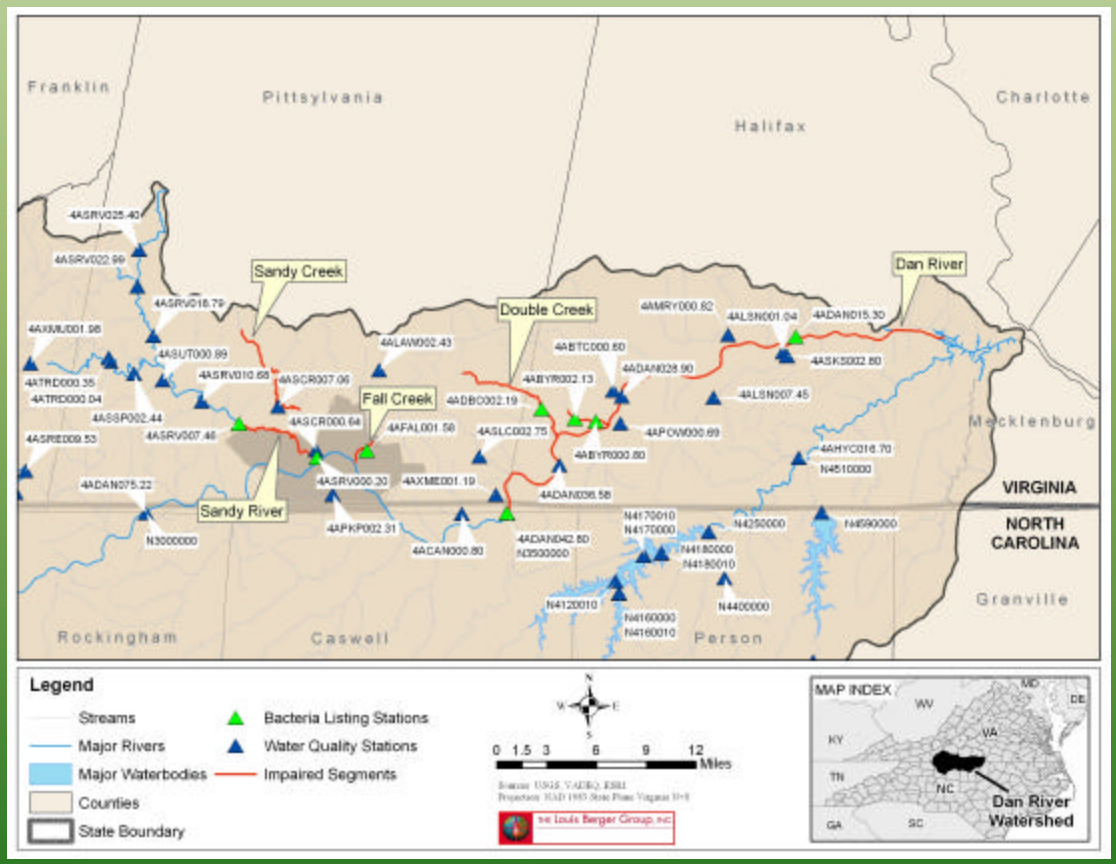
THE Louis Berger Group, INC.



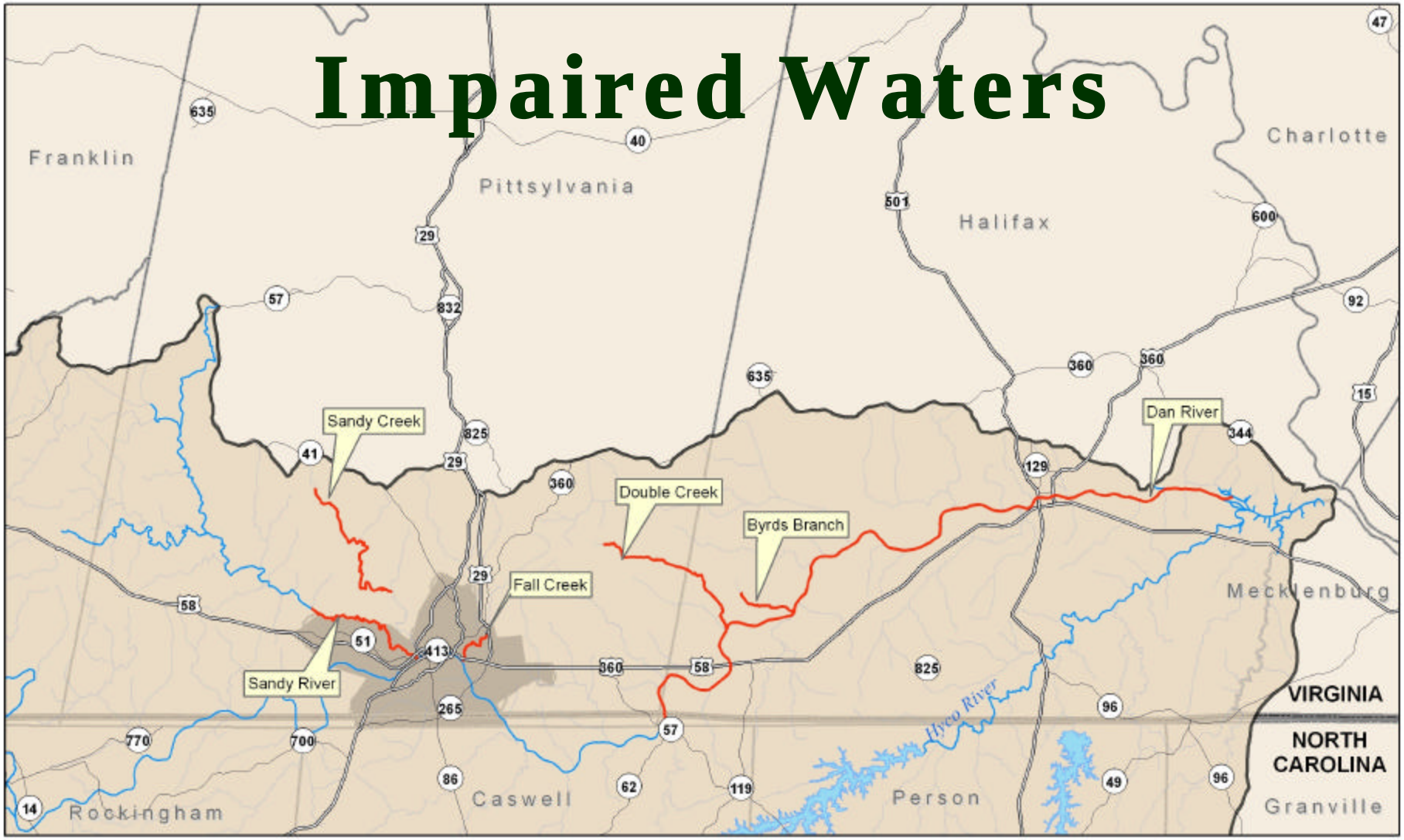
Dan River Basin Water Quality

- DEQ routinely monitors the quality of waters across the state and reports those results every 2 years

- In 2006, the Dan River and several tributaries in the City of Danville, Pittsylvania and Halifax Counties were listed as “impaired” by excess bacteria.



Impaired Waters



Legend

- Interstate
- US Highway
- State Highway
- Counties
- State Boundary
- Impaired Segments
- Streams
- Major Rivers
- Major Waterbodies

N W E S

0 1.5 3 6 9 12 Miles

Sources: USGS, VADEQ, ESRI
Projection: NAD 1983 State Plane Virginia N+S

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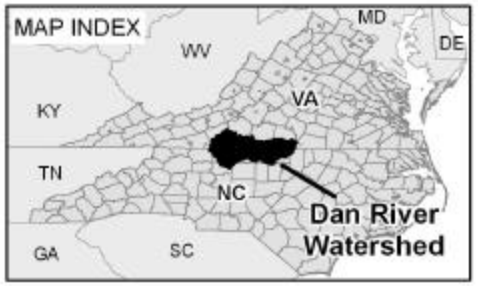


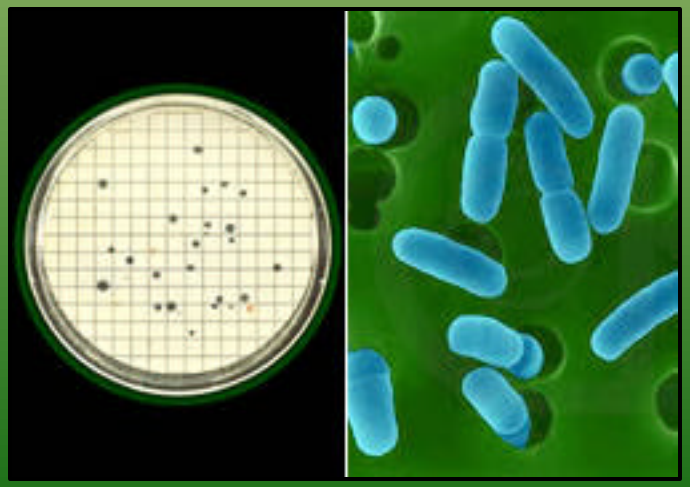
Bacteria Impairments

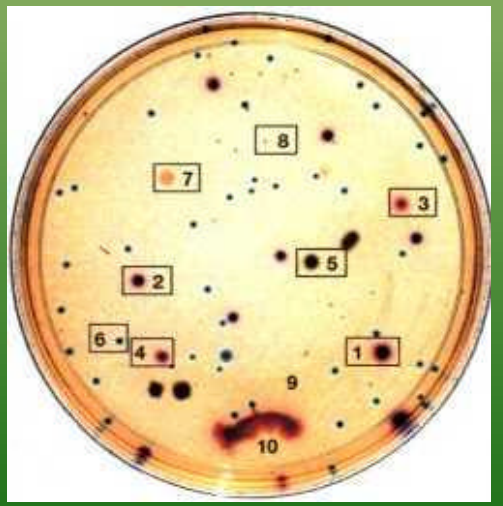
What does impaired mean?

- More than 10.5% of samples collected exceeded State standards for bacteria

What is the standard?

- No more than 400 fecal coliform colonies per 100ml water (~1/2 cup)
- Fecal coliforms are indicators of human or animal waste





Why Are High Bacteria Levels Bad?

- Presence of fecal coliform indicates that other disease causing bacteria may be present

Human Health Concern

- Chance of gastrointestinal illness or infection during primary contact (e.g., water in mouth, nose, eyes, open wounds)

Other Concerns

- Livestock health and weight gain

Bacteria Levels

STATION ID	LOCATION	SAMPLES	MIN	MAX	EXCEEDANCES	%
4ASSP002.44	South Prong Sandy River @ Rte 841	12	25	880	2	17%
4ASRV018.79	Sandy River @ Rte 845	12	25	1300	1	8%
4ASWA002.97	Stewart Creek @ Rte 882	12	25	1000	3	25%
4ASCR007.06	Sandy Creek @ Rte 746	12	24	20000	3	25%
4ASRV000.20	Sandy River @ Rte 58	12	6	250	1	8%
4AFAL001.58	Fall Creek @ Rte 730	12	14	840	3	25%
4AFAL005.42	Fall Creek @ Rte 695	12	25	420	5	42%
4AMRY000.82	Miry Creek @ Rte 659	12	80	980	7	58%
4ADBC002.19	Double Creek @ Rte 688	12	12	360	2	17%
4ADAN042.80	Dan River @ Rte 62	12	6	550	1	8%
4ABYR000.80	Byrds Branch @ Rte 810	12	72	700	8	66%
4ALSN007.45	Lawsons Creek @ Rte 708	12	25	880	4	33%
4ADAN015.30	Dan River @ Rte 501	11	34	1020	1	9%

What Happens When a Stream is Impaired?

The State begins a formal study to clean up that water body (a TMDL)

Total
Maximum
Daily
Load

We are here

Study

- Identifies sources of pollution
- Calculates amounts from each source
- Estimates necessary pollutant reductions

Implementation Plan

- Identifies permit controls or best management practices needed to make necessary pollutant reductions

Implementation

Monitoring

Polluted

Water quality standards not met

Clean

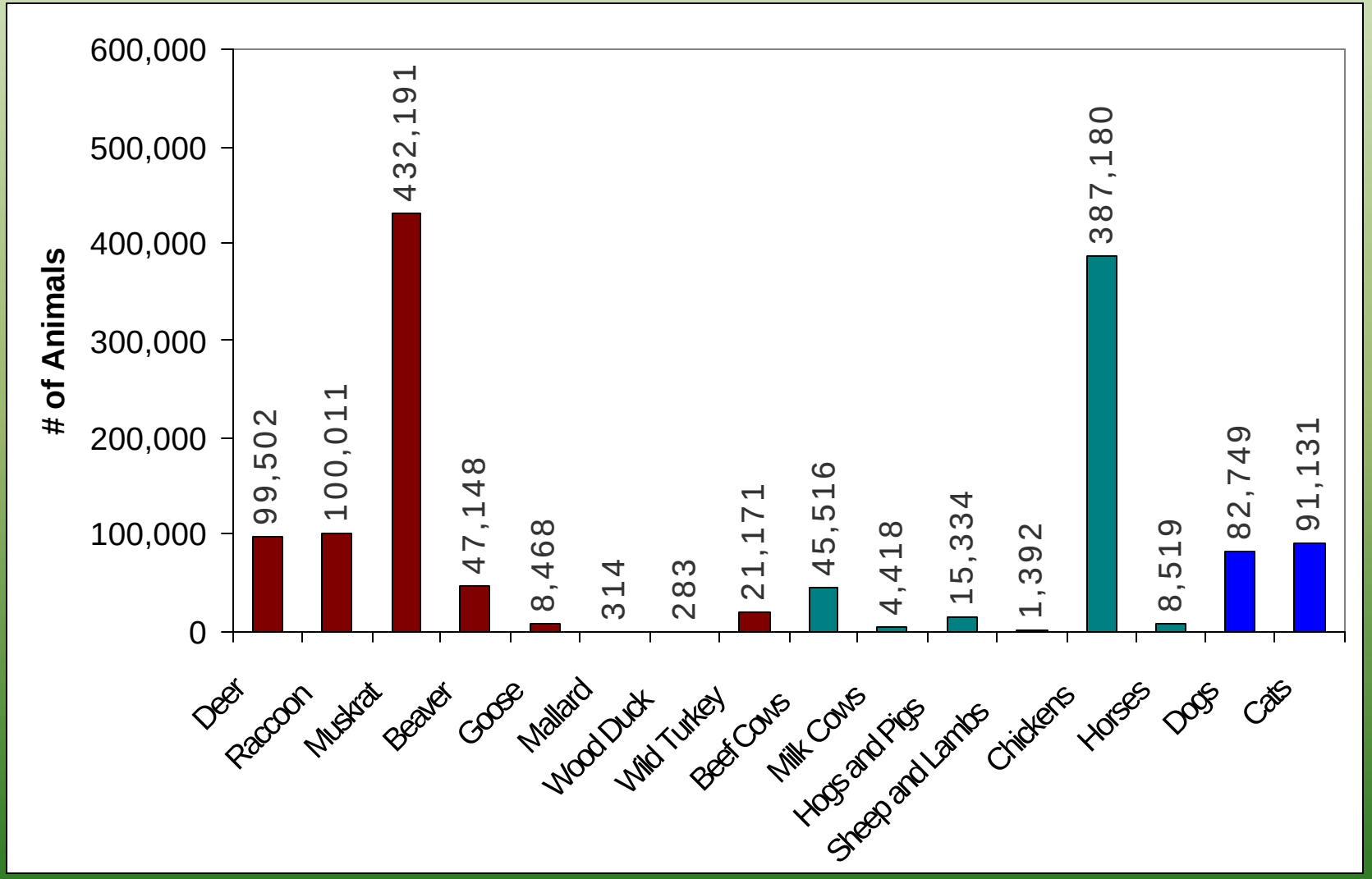
Water quality standards met

The Process

What are the Study Goals?

- Identify all sources of fecal bacteria
- Quantify amounts from each source
- Estimate reductions necessary to meet water quality standards

Animal Estimates



Data sources: USDA National Agricultural Statistics Service, Virginia Agricultural Statistics Service (2002), 2001 Virginia Equine Report, North Carolina Department of Agriculture & Consumer Services Agricultural Statistics (2006-2007), VA and NC Soil and Water Conservation Districts, Map Tech Inc. 2001, VA Department of Game and Inland Fisheries, AVMA 2005.

Population Estimates and Sewage Disposal

Watershed population = 384,273 people* in ~152,393 households*

Sewage Disposal Methods

Sewer System (predominantly cities)
Septic System
Other (assumed to be no waste management, or “straight pipe”)

In the Dan River Watershed there are:

An estimated **421** straight pipes
An estimated **189** failing septic systems within 200ft of streams, assuming a 3% septic failure rate

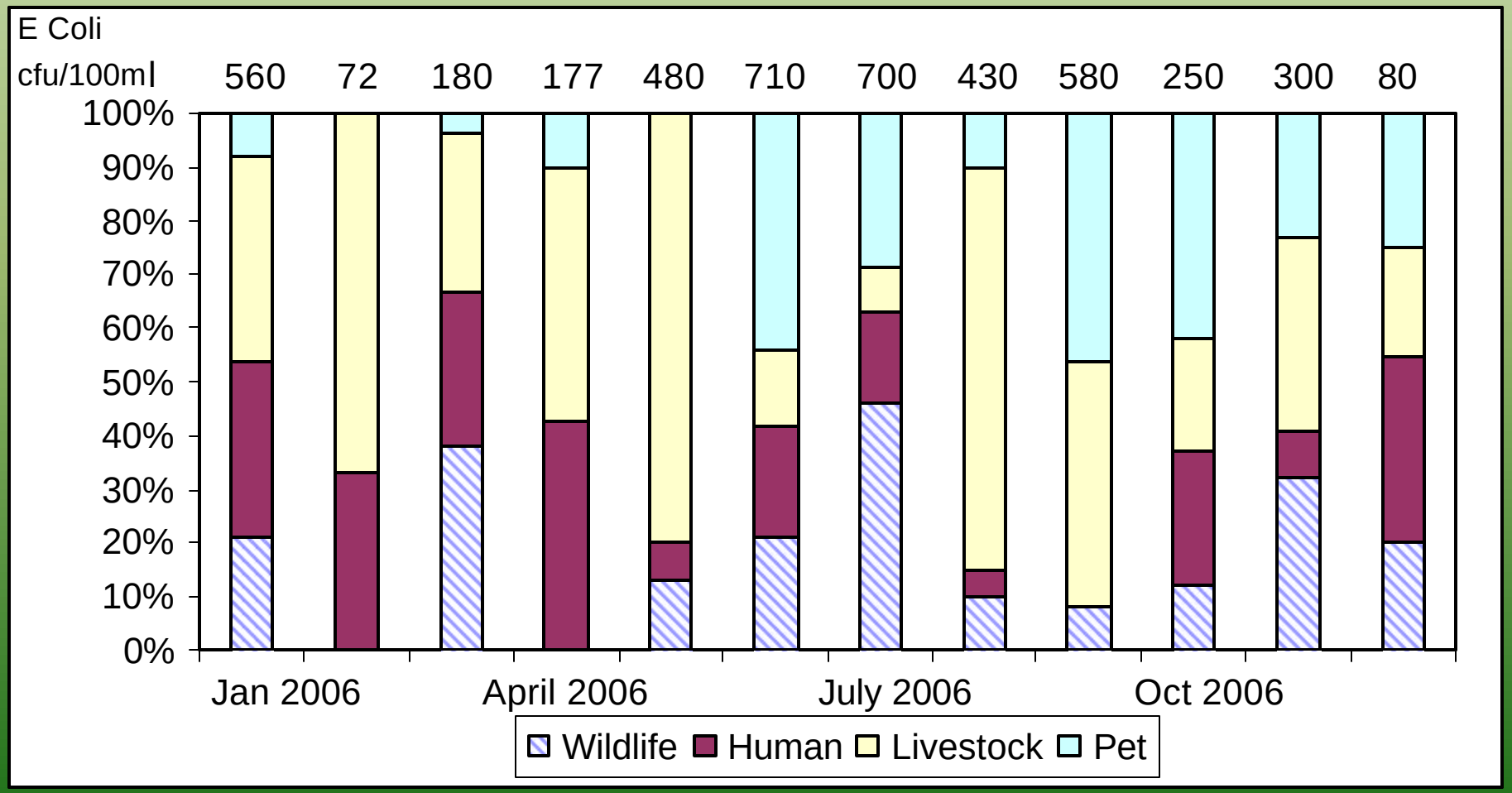
***2004 US Census Data**

Bacteria Source Tracking (BST)

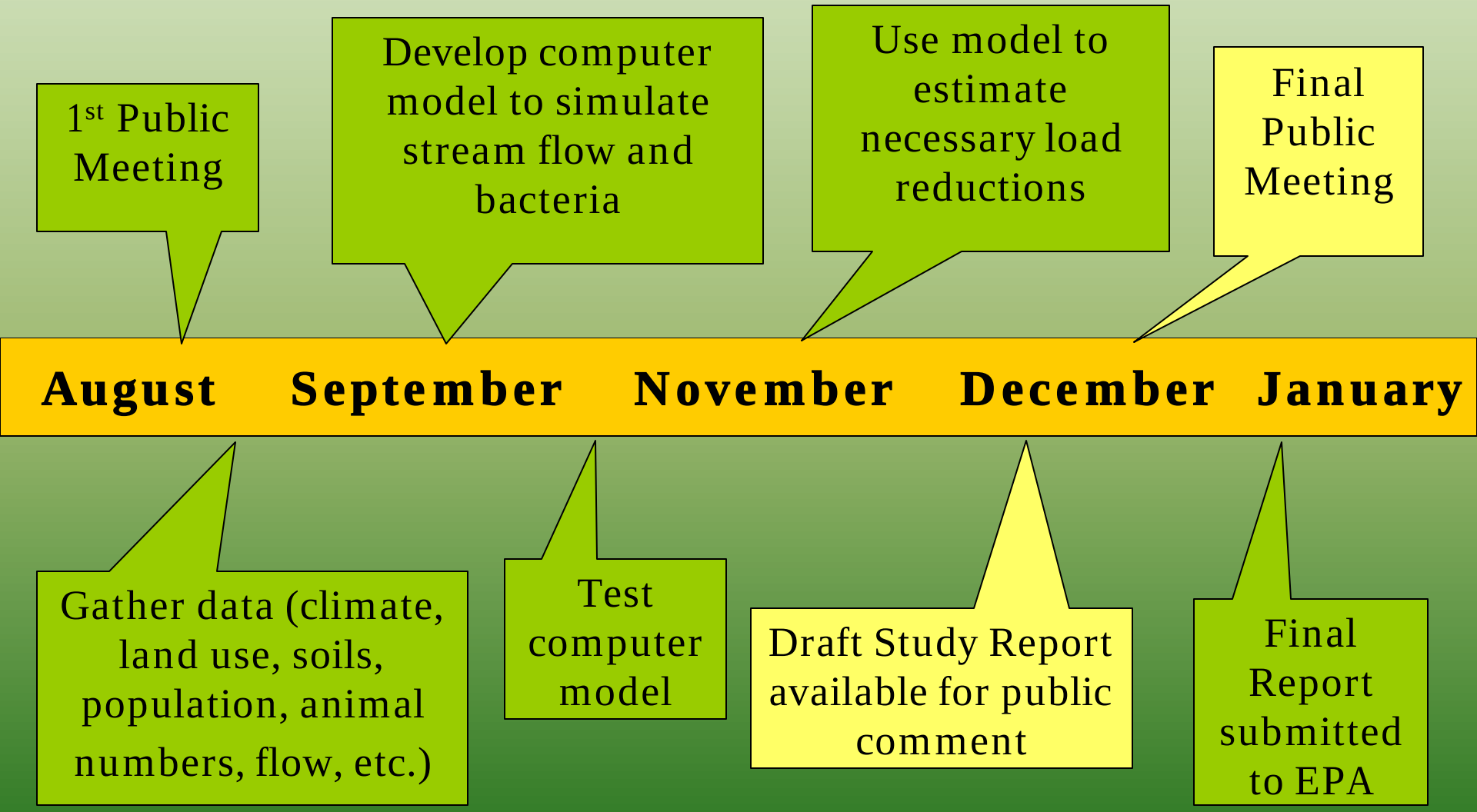
STATION ID	LOCATION
4ASCR007.06	Sandy Creek @ Rte 746
4ASRV000.20	Sandy River @ Rte 58
4AFAL001.58	Fall Creek @ Rte 730
4AMRY000.82	Miry Creek @ Rte 659
4ADBC002.19	Double Creek @ Rte 688
4ADAN042.80	Dan River @ Rte 62
4ABYR000.80	Byrds Branch @ Rte 810
4ADAN015.30	Dan River @ Rte 501

Example: BST Results

Byrds Branch @ Route 810



What is the Study Timeline?



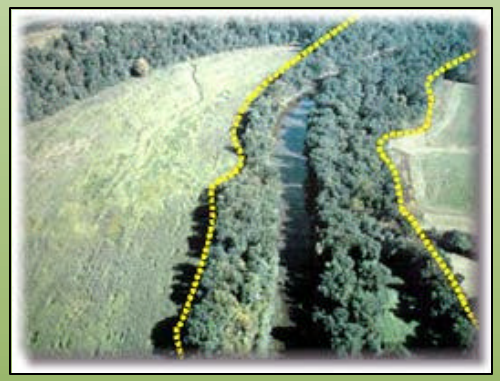
What Can You Do to Help?

- Participate on a Local Steering Committee
  - Group of local citizens, landowners, organizations, and government entities that will provide input, review and assistance to DEQ during the study
  - Goal - make sure technical aspects of the study are accurate as well as acceptable to the community

Sign up tonight!

What Can You Do to Help?

- Begin implementing best management practices (BMPs) that improve water quality



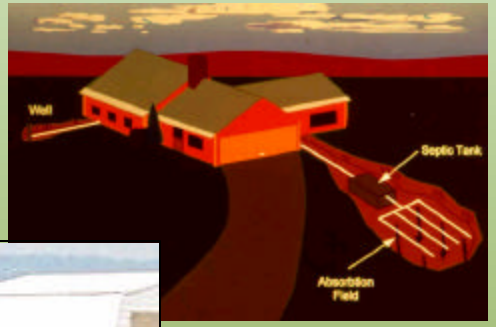
Urban Areas

- riparian buffers
- use fertilizers and pesticides sparingly
- never pour hazardous materials into storm drains
- disconnect roof drains from sanitary or storm sewers
- pick up pet wastes

What Can You Do to Help?

Rural/Agricultural Areas

- riparian buffers
- septic pump-outs/repairs
- stream exclusion fencing
- alternative water systems
- rotational grazing
- nutrient management



Contact local Soil & Water Conservation Districts about programs and funding for BMPs

Pittsylvania County: (434) 432-8146
Halifax County: (434) 476-7923

Summary

- Bacterial impairments in the Dan River and several tributaries including:
  - Sandy River, Sandy Creek, Double Creek, Fall Creek, Byrds Branch
- DEQ is beginning a Water Quality Study to investigate these impairments
- Your help is needed on a local steering committee

- Study will be followed up by implementing voluntary improvements in the watershed with assistance from State and Federal funds

Questions?

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Comment period for this public meeting ends September 10, 2007!

Public Invitation

The Virginia Department of Environmental Quality – South Central Regional Office would like to invite you to a Memorandum of Understanding Signing Ceremony between DEQ and the Dan River Basin Association. The MOU establishes a partnership between DRBA and DEQ on efforts to protect and restore water quality in the Dan River Basin.

The ceremony will be Tuesday, October 2 at 10am at the Riverwalk entrance at the Crossing at the Dan, adjacent to the Carrington Pavilion.

DEQ

DAN RIVER BASIN ASSOCIATION